Docket No.: 3351-042 PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of	:	
THOMAS S. HEATH	:	Confirmation No. 6601
U.S. Patent Application No. 09/577,487	:	Group Art Unit: 2612
Filed: May 25, 2000	:	Examiner: CHRISS S. YODER, III

For: VIDEO MOSAIC

05/27/2005 BBONNER 00000006 09577487
01 FC:1252 450.00 OP

Petition under 37 C.F.R. 1.181

Commissioner for Patents
PO Box 1450
Alexandria, VA 22313-1450

Sir:

Applicant hereby petitions the Director to invoke his supervisory authority under 37 C.F.R. 1.181 to have the finality of the present Official Action (OA) mailed February 25, 2005 withdrawn as the OA was prematurely made Final by the Examiner.

Relevant to the instant issue, Applicant filed a Response Under Rule 1.116 (copy attached as Exhibit A) on December 23, 2004 in response to a Final Official Action mailed July 27, 2004 (copy attached as Exhibit B). Applicant's response did not present any amendments to the instant claims nor has Applicant submitted an Information Disclosure Statement.

On January 27, 2005, Applicant held a telephone interview with the Examiner (copy of the Interview Summary form is attached as Exhibit C) during which the Examiner stated that the finality of the July 27, 2004 Official Action was vacated and an office action on the merits would be forthcoming. Further, the Examiner stated that he was taking this action "[b]ased on Applicant's arguments . . . which have been found to be persuasive."

U.S. Patent Application No. 09/577,487

The present Official Action mailed February 25, 2005 was issued and prematurely made Final by the Examiner. As stated by the Examiner, "[a]pplicant's amendment necessitated the new ground(s) of rejection presented in this Office Action. Accordingly, THIS ACTION IS MADE FINAL. See MPEP §706.07(a)." Further, the February 25, 2005 OA relied on a new reference not previously made of record in rejecting Applicant's claims, i.e., the Hsieh reference (U.S. Patent 6,011,558).

MPEP §706.07(a), cited by the Examiner in the most-recent OA, states in relevant part specifically, "[u]nder present practice, second or any subsequent actions on the merits shall be final, **except where the examiner introduces a new ground of rejection that is neither necessitated by applicant's amendment of the claims nor based on information submitted in an information disclosure statement.**" (emphasis added) Based on the foregoing information concerning the development of the prosecution of the instant application, the Examiner erroneously made the most-recent OA final and the finality should be withdrawn at this time.

The Finality of the instant OA is premature and should be withdrawn because:

(1) the new ground of rejection was not necessitated by any amendments by Applicant; and

(2) the new ground of rejection was not necessitated by an IDS submitted by Applicant.

Specifically, as evidenced by the prosecution history, Applicant did not amend the claims subsequent to the Final OA of December 23, 2004. The Examiner rejected at least one claim, e.g., claim 1, in view of a new reference neither previously cited nor applied.

Further, Applicant did not submit an IDS subsequent to the Final OA of December 23, 2004. Therefore, the new reference applied by the Examiner could not be applied as a result of an IDS submitted by Applicant.

U.S. Patent Application No. 09/577,487

Based on the foregoing, the supervisory authority of the Director of the USPTO under 37 C.F.R. 1.181 is requested to be invoked to withdraw the finality of the most-recent OA as being premature and cause the issuance of a new non-Final OA.

Respectfully submitted,

LOWE HAUPTMAN & BERNER, LLP

Randy A. Noranbrock
Registration No. 42,940

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Date: May 25, 2005
KMB/RAN/iyr

CERTIFICATION OF FACSIMILE TRANSMISSION
I HEREBY CERTIFY THAT THIS PAPER IS BEING FACSIMILE TRANSMITTED TO THE PATENT AND TRADEMARK OFFICE ON THE DATE SHOWN BELOW

RANDY NORANBROCK
TYPE OR PRINT NAME OF PERSON SIGNING CERTIFICATION

SIGNATURE 5-25-05 DATE

703- 872- 9306
FACSIMILE NUMBER

EXHIBIT A

Docket No.: 3351-042

PATENT

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of	: EXPEDITED PROCEDURE : Response under 37 CFR 1.116
THOMAS S. HEATH	: Confirmation No. 6601
U.S. Patent Application No. 09/577,487	: Group Art Unit: 2612
Filed: May 25, 2000	: Examiner: CHRISS S. YODER, III

For: VIDEO MOSAIC

RESPONSE UNDER RULE 116

Commissioner for Patents
PO Box 1450
Alexandria, VA 22313-1450

Sir:

This paper is submitted in reply to the Office Action mailed July 27, 2004, which was made Final. Applicants respectfully submit the following remarks.

REMARKS

Reconsideration and allowance of the subject application in view of the foregoing amendments and the following remarks is respectfully requested. Entry of this Amendment Under Rule 116 is merited as it raises no new issues and requires no further search.

Claims 1-4, 7-10, and 12-15 remain pending.

The rejection of claim 1 under 35 U.S.C. 103(a) as being unpatentable over Burt et al. (U.S. Patent 6,999,662) in view of Yagi et al. (U.S. Patent 6,268,884) and further in view of Takiguchi et al. (U.S. Patent 6,549,681) is hereby traversed.

First, Burt fails to describe determining regions of interest in order to overlap two images based on detected edges. Burt specifically states that the "alignment process assumes that each consecutive image has some portion . . . in common with the preceding image," but fails to describe any determination of regions of interest whether or not based on detected edges. Burt at column 17, lines 45-47. That is, Burt fails to describe that the referenced alignment process differs from the previously described coarse-to-fine alignment process at column 6, line 30 through column 10, line 48 of Burt which differs from the present claimed subject matter.

Further still, the section relied on by the Examiner relates to a real-time transmission system, i.e., a mosaic based compression system, for efficient transmission of the image information over a band-limited transmission channel. Burt at column 14, lines 50-51. This is different from the subject matter of the claimed invention as in Burt the most recent image and a predicted mosaic are combined to form an updated mosaic. A sequence of individual frames are not combined in the identified section of Burt to form an image displaying an area as claimed in claim 1. The Examiner appears to be improperly picking and choosing different unrelated portions of the reference based on improper hindsight based on applicant's disclosure. Based on either of the foregoing reasons, the rejection should be withdrawn.

The Examiner admits that Burt fails to disclose detecting edges of an object in the first and second frames and correlating regions of interest by comparing each region of interest to

each other region of interest. The Examiner attempts to overcome these deficiencies by combining Burt with Yagi and Takiguchi.

At the outset, the Examiner's reliance on Yagi is misplaced as the reference fails to describe a computer-implemented method instead relying on a specialized optical apparatus for extracting an outline from an image. "The outline image extracting means 4 is a spatial light modulating element consisted of a photoconductive member and a light modulating element." Yagi at column 5, lines 18-20. Based thereon, the disclosure of Yagi does not relate to a computer-implemented method and is inapplicable to the present claimed subject matter and not combinable with either Burt or Takiguchi.

Second, the Examiner asserts that a person of ordinary skill in the art at the time would combine the Yagi edge detection with Burt in order to outline the objects to compensate for the roughness of edges. However, Yagi is directed to reducing the pixel count of the image sensing apparatus and the corresponding memory requirements and not to creating an image mosaic from a sequence of images. That is, Yagi reduces the memory and pixel requirements for a charge-coupled device (CCD) used in a camera by capturing the same image information using a reduced pixel count CCD for detecting color and tone and an outline extracting sensor for extracting an outline image with higher pixel resolution. The edge roughness referred to in Yagi is a direct result of the Yagi manner of image capture and not directly applicable to Burt. Burt operates in a different manner from Yagi and already includes a compression system for reducing the image information for storage and transmission. There is no teaching or suggestion in Yagi of a motivation to replace the existing compression system of Burt with the Yagi compression system. Stated another way, there is no motivation or suggestion in either reference suggesting or motivating the combination of Yagi with Burt. Based on at least this reason, the rejection should be reversed.

Third, the Examiner asserts that Takiguchi discloses the correlation of regions of interest by comparing each region of interest to each other region of interest and that the correlation is performed using the comparison of regions from one frame to the next. The Examiner further

asserts that a person of ordinary skill in the art at the time would be motivated to combine Takiguchi with Burt "in order to ensure that the correct regions are going to be overlapped to accurately create the correct mosaic." Final Office Action at page 3, lines 13-15. Each of these assertions is incorrect.

With respect to Takiguchi correlating regions of interest, Takiguchi describes determining a difference between a template image designated by a user and a search range in a second image. Takiguchi at column 32, lines 47-49. This is not the same as correlating determined regions of interest between two individual frames as the regions of interest are not determined based on edge detection. As described above, Yagi fails to teach edge detection usable in combination with Burt and as admitted by the Examiner Burt fails to teach edge detection.

With respect to Takiguchi performing correlation using the comparison of regions from one frame to the next, Takiguchi describes comparing a user designated point in a first frame with points in a search range surrounding the user-designated point in a second frame. That is, Takiguchi does not describe a comparison of regions, much less regions of interest based on edge detection as described above, between frames, rather Takiguchi describes comparing a point to points in a search range surrounding the point in a second frame.

For either of the above reasons, Takiguchi fails to cure the above-noted deficiencies of Burt and Yagi and the rejection should be withdrawn.

For any of the above reasons, the present claimed subject matter is not rendered obvious by the applied combination of Burt, Yagi, and Takiguchi and the rejection should be withdrawn.

Claims 2-4 and 7-12 depend from claim 1, include further important limitations, and are patentable over the applied combination of references for at least the reasons advanced above with respect to claim 1. The rejection of claims 2-4 and 7-12 is respectfully requested to be withdrawn.

With particular reference to claim 8, the rejection of claim 8 under 35 U.S.C. 103(a) as being unpatentable over Burt in view of Yagi and Takiguchi is hereby traversed for at least the reasons advanced above with respect to claim 1 from which claim 8 depends. Further, the Examiner appears to have incorrectly interpreted both column 5, lines 21-24 and Figure 5 of Yagi and Figure 28, steps S1303 and S1304 of Takiguchi.

With respect to Yagi, the Examiner asserts that the identified portion of Yagi describes following adjacent pixels until an off pixel is detected and repeating the process for the entire image. Contrary to the Examiner's assertion, Yagi fails to describe the claimed method steps. Yagi describes the outline image extracting means as a spatial light modulating element achieved by a method using a light intensity dependency of a polarizing angle or using a difference of a motion degree of an electron and hole. Neither of which performs the step of following adjacent on pixels until an off pixel is detected, as claimed in claim 8.

With respect to Takiguchi, the Examiner asserts that the identified portion of Takiguchi describes counting a number of pixels and comparing the total to a threshold. Contrary to the Examiner's assertion, a careful reading of Takiguchi reveals that S1303 and S1304 of Takiguchi are directed to counting a number of matching points between frames in order to determine the type of synthesization process to be used, i.e., fully automatic, automatic, and semi-automatic. This is not the same as the claimed "counting a number of on pixels and if above a preset threshold, designate as a structure" as claimed in claim 8. First, there is no counting of on pixels performed in the Examiner-identified portion of Takiguchi. Second, Takiguchi fails to designate a structure based on counting a number of on pixels above a preset threshold.

For any of the above reasons, the rejection of claim 8 should be withdrawn.

With particular reference to claim 10, the rejection of claim 10 under 35 U.S.C. 103(a) as being unpatentable over Burt in view of Yagi and Takiguchi is hereby traversed for at least the reasons advanced above with respect to claim 1 from which claim 10 depends. Further, the Examiner has not provided the requested factual basis and/or technical reasoning reasonably supporting the determination that the allegedly inherent characteristic necessarily flows from the prior art teaching. Applicant reiterates the previously submitted request that the Examiner either support the assertion of inherency or withdraw the rejection. The Examiner has failed to identify any support in the reference for the assertion that the "in the process of creating this line the pixel values are changed in order to compensate for the roughness of edges, thereby avoiding the use of these pixels in future structures." Final Office Action at page 5, section 9. For at least this reason, and the reasons advanced above with respect to claim 1, the rejection is respectfully requested to be withdrawn.

With particular reference to claim 12, the rejection of claim 12 under 35 U.S.C. 103(a) as being unpatentable over Burt in view of Yagi and Takiguchi is hereby traversed for at least the reasons advanced above with respect to claim 1 from which claim 12 depends. Further, the Examiner asserts that Takiguchi describes correlating an average distance from every pixel in the first frame with every pixel in a corresponding region of interest in the second individual frame and determining the most consistent average distance between a region of interest in the first frame and a corresponding region of interest in the second frame. Contrary to the Examiner's assertion, Takiguchi describes comparing the pixel difference values of a template image (user-designated point as described above with respect to claim 8) and a search range and determining a minimum value thereof. Coordinates for the template image point and the matching point, i.e., determined minimum pixel value location, are registered. Accordingly, there is no correlation of an average distance from every pixel in a region of interest in the first frame with every pixel in a corresponding region of interest in the second frame. Takiguchi fails to describe comparing pixels in a region of interest in a first frame with pixels in a corresponding region of interest in the second frame. Also, there is no determination of the most consistent average distance between a region of interest in the first frame and a corresponding region of interest in the second frame as claimed in claim 12.

For at least this reason, and the reasons advanced above with respect to claim 1, the rejection of claim 12 is respectfully requested to be withdrawn.

The rejection of claims 13-15 under 35 U.S.C. 103(a) as being unpatentable over Burt in view of Yagi and Takiguchi is hereby traversed for at least reasons similar to those advanced above with respect to claim 1. The rejection of claims 13-15 is respectfully requested to be withdrawn.

All objections and rejections having been addressed, it is respectfully submitted that the present application should be in condition for allowance and a Notice to that effect is earnestly solicited.

Early issuance of a Notice of Allowance is courteously solicited.

The Examiner is invited to telephone the undersigned, Applicant's attorney of record, to facilitate advancement of the present application.

U.S. Patent Application No. 09/577,487

To the extent necessary, a petition for an extension of time under 37 C.F.R. 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account 07-1337 and please credit any excess fees to such deposit account.

Respectfully submitted,

LOWE HAUPTMAN GILMAN & BERNER, LLP

Randy A. Noranbrock
Registration No. 42,940

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Date: December 23, 2004
KMB/RAN/iyr

Docket No.: 3351-042 **PATENT**

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re Application of	:	
THOMAS S. HEATH	:	Confirmation No. 6601
Application No. 09/577,487	:	Group Art Unit: 2612
Filed: May 25, 2000	:	Examiner: Chriss S. Yoder, III

For: VIDEO MOSAIC

PETITION FOR EXTENSION OF TIME

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Dear Sir:

Applicant(s) hereby petition(s) the Commissioner of Patents and Trademarks to extend the time for response to the Official Action dated July 27, 2004 for two month(s) from October 27, 2004 to December 27, 2004.

A credit card authorization form to cover the cost of the extension is attached. Any deficiency or overpayment should be charged or credited to Deposit Account No.: 07-1337.

Respectfully submitted,

LOWE HAUPTMAN GILMAN & BERNER, LLP

Randy A. Noranbrock

Randy A. Noranbrock
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Alexandria, Virginia 22314
Telephone: (703) 684-1111
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DATE: December 23, 2004
KMB:RAN/IYR

EXHIBIT B

KBM/RAN

UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/577,487	05/25/2000	Thomas S. Heath	3351-042	6601

7590 07/27/2004

Lowe Hauptman Gopstein Gillman & Berner LLP
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Suite 310
1700 Diagonal Road
Alexandria, VA 22314

EXAMINER	
YODER III, CHRISS S	

ART UNIT	PAPER NUMBER
2612	

DATE MAILED: 07/27/2004

5

Please find below and/or attached an Office communication concerning this application or proceeding.

DOCKETED BY: LK
DUE DATE: 10/27/04
FOA/NOA

RECEIVED
JUL 28 2004
Lowe, Hauptman, Gilman & Berner

PTO-90C (Rev. 10/03)

Office Action Summary	Application No. 09/577,487	Applicant(s) HEATH, THOMAS S.
	Examiner Chriss S. Yoder, III	Art Unit 2612

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *13 May 2004*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-4,7-10 and 12-15* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-4,7-10 and 12-15* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *25 May 2000* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Response to Arguments

Applicant's arguments with respect to claim 1-4, 7-10, and 12-15 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

1. Claims 1-4, 7-10, and 12-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Burt et al. (US Patent # 6,999,662) in view of Yagi et al. (US Patent # 6,268,884) and further in view of Takiguchi et al. (US Patent # 6,549,681).

2. In regard to claim 1, note Burt discloses the use of a computer implemented method comprising extracting a first and a second individual frame of imagery from a series of video frames (column 17, lines 38-41; and figure 2B; the images are taken sequentially, a first and second individual frame), determining regions of interest in order to overlap two images (column 17, lines 45-47), identifying commonality from the first frame to the second frame (column 17, lines 45-47), and overlapping the individual frames based on the commonality identified from the first and second frames (column 17, lines 45-47) and displaying and image representing a continuous area (column 4, lines 55-60).

Therefore, it can be seen that the Burt device fails to detect edges of an object in the first and second frames and the correlation of regions of interest by comparing each region of interest to each other region of interest. Yagi discloses the detection of the edge of an object by detecting changes in the intensity from one pixel to another (column 5, lines 21-24; after detecting the brightness values, the outline of the image is created). Yagi teaches that the detection of the edge of an object by detecting changes in the intensity from one pixel to another and drawing a line at the detected edge is preferred in order to outline the objects to compensate for the roughness of edges (column 5, lines 50-55). Takiguchi discloses the correlation of regions of interest by comparing each region of interest to each other region of interest (column 32, lines 45-67; the correlation is done using the comparison of regions from one frame to the next; and figures 47, 49, and 50). Takiguchi teaches that the correlation of regions using comparison is preferred in order to ensure that the correct regions are going to be overlapped to accurately create the correct mosaic (column 31, lines 60-65). Therefore, it would have been obvious to one of ordinary skill in the art to modify the Burt device to include the use of edge detection of an object in the first and second frames and the correlation of regions of interest by comparing each region of interest to each other region of interest as suggested by Yagi and Takiguchi.

3. In regard to claim 2, note Burt discloses the use of a computer implemented method comprising extracting individual frames of imagery taken from video, identifying commonality from one frame to the next, and overlapping the individual frames and displaying and image representing a continuous area.

Therefore, it can be seen that the Burt device lacks the use of a camera that takes images at 30 frames per second. Official notice is taken that the concepts and advantages of using a camera that takes images at 30 frames per second are notoriously well known and expected in the art. Therefore, it would have been obvious to one of ordinary skill in the art to modify the Burt device to include the use of a video camera that takes images at 30 frames per second in order to allow the video to also be displayed on a conventional television.

4. In regard to claim 3, note Burt discloses the use of MPEG compression to store the images (column 15, lines 3-6).

5. In regard to claim 4, note Burt discloses the conversion of MPEG files into black and white images (column 5, lines 7-12).

6. In regard to claim 7, note Burt discloses the compensation of platform/camera motions (column 19, lines 12-15).

7. In regard to claim 8, note Yagi discloses the detection of the edge of an object (column 5, lines 21-24; and figure 5), follow adjacent pixels until an off pixel is detected (column 5, lines 21-24; and figure 5), and repeating the process for the entire image (column 5, lines 21-24; and figure 5). And Takiguchi discloses the counting of pixels and comparing the total to a threshold (figure 28: S1303-S1304; if the number of pixels is greater than the threshold, then continue with the image overlapping, otherwise look for other structures).

8. In regard to claim 9, note Yagi discloses the storage of the location of on pixels within each designated structure (column 6, lines 10-15).

9. In regard to claim 10, note Yagi discloses the creation of a line in the image to distinguish where the structure is located (column 5, lines 21-24; column 5, lines 50-55; it would be implied that in the process of creating this line the pixel values are changed in order to compensate for the roughness of edges, thereby avoiding the use of these pixels in future structures).

10. In regard to claim 12, note Takiguchi discloses the calculation of a centroid for each region of interest in the first frame (figure 47: A-1), comparing the centroid in the first frame with the centroids in the next frame (column 32, lines 45-67), selecting the centroid in the second frame within an error tolerance (column 32, lines 45-56), correlating an average distance from every pixel in the first frame with corresponding structure in next frame (column 32, line 45 – column 33, line 17), and determining the most consistent distance between a region of interest in the first frame and a corresponding region of interest in the second frame (column 32, line 45 – column 33, line 17), and overlapping is performed based on the determined most consistent distance (column 32, line 45 – column 33, line 17).

11. In regard to claim 13, this is an apparatus claim, corresponding to the method in claim 1. Therefore, claim 13 has been analyzed and rejected as previously discussed with respect claims 1.

12. In regard to claim 14, this is an apparatus claim, corresponding to the method in claim 1. Therefore, claim 14 has been analyzed and rejected as previously discussed with respect claims 1.

13. In regard to claim 15, this is an apparatus claim, corresponding to the method in claim 1. Therefore, claim 15 has been analyzed and rejected as previously discussed with respect claims 1.

Conclusion

Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL.** See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chriss S. Yoder, III whose telephone number is (703) 305-0344. The examiner can normally be reached on M-F: 8 - 4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wendy Garber can be reached on (703) 305-4929. The

fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

CSY
July 15, 2004

TUAN HO
PRIMARY EXAMINER

EXHIBIT C

USPTO

Fax

To:	Randy Noranbrock	**From:**	Chriss Yoder
Fax:	703.518.5499	**Pages:**	3 (including coversheet)
Phone:	703.535.7070	**Date:**	1/27/05
Re:	Interview Summary		

REC'D VIA FAX

JAN 2 7 2005

Lowe, Hauptman, Gilman & Berner

Interview Summary	Application No. 09/677,487	Applicant(s) HEATH, THOMAS S.	
	Examiner Chriss S. Yoder, III	Art Unit 2612	

All participants (applicant, applicant's representative, PTO personnel):

(1) *Chriss S. Yoder, III*. (3) *Randy Noranbrock*.

(2) _____. (4) _____.

Date of Interview: *27 January 2005*.

Type: a)☒ Telephonic b)☐ Video Conference
c)☐ Personal [copy given to: 1)☐ applicant 2)☐ applicant's representative]

Exhibit shown or demonstration conducted: d)☐ Yes e)☒ No.
If Yes, brief description: _____.

Claim(s) discussed: _____.

Identification of prior art discussed: _____.

Agreement with respect to the claims f)☐ was reached. g)☒ was not reached. h)☐ N/A.

Substance of interview including description of the general nature of what was agreed to if an agreement was reached, or any other comments: *Based on Applicants arguments in the After Final amendment dated 12/23/2004, which have been found to be persuasive, a new office action will be mailed. Therefore, the office action mailed 07/27/2004 is hereby vacated. An office action on the merits is forthcoming*.

(A fuller description, if necessary, and a copy of the amendments which the examiner agreed would render the claims allowable, if available, must be attached. Also, where no copy of the amendments that would render the claims allowable is available, a summary thereof must be attached.)

THE FORMAL WRITTEN REPLY TO THE LAST OFFICE ACTION MUST INCLUDE THE SUBSTANCE OF THE INTERVIEW. (See MPEP Section 713.04). If a reply to the last Office action has already been filed, APPLICANT IS GIVEN ONE MONTH FROM THIS INTERVIEW DATE, OR THE MAILING DATE OF THIS INTERVIEW SUMMARY FORM, WHICHEVER IS LATER, TO FILE A STATEMENT OF THE SUBSTANCE OF THE INTERVIEW. See Summary of Record of Interview requirements on reverse side or on attached sheet.

TUAN HO
PRIMARY EXAMINER

Examiner Note: You must sign this form unless it is an Attachment to a signed Office action.

Examiner's signature, if required

Summary of Record of Interview Requirements

Manual of Patent Examining Procedure (MPEP), Section 713.04, Substance of Interview Must be Made of Record
A complete written statement as to the substance of any face-to-face, video conference, or telephone interview with regard to an application must be made of record in the application whether or not an agreement with the examiner was reached at the interview.

Title 37 Code of Federal Regulations (CFR) § 1.133 Interviews
Paragraph (b)
In every instance where reconsideration is requested in view of an interview with an examiner, a complete written statement of the reasons presented at the interview as warranting favorable action must be filed by the applicant. An interview does not remove the necessity for reply to Office action as specified in §§ 1.111, 1.135. (35 U.S.C. 132)

37 CFR §1.2 Business to be transacted in writing.
All business with the Patent or Trademark Office should be transacted in writing. The personal attendance of applicants or their attorneys or agents at the Patent and Trademark Office is unnecessary. The action of the Patent and Trademark Office will be based exclusively on the written record in the Office. No attention will be paid to any alleged oral promise, stipulation, or understanding in relation to which there is disagreement or doubt.

The action of the Patent and Trademark Office cannot be based exclusively on the written record in the Office if that record is itself incomplete through the failure to record the substance of interviews.

It is the responsibility of the applicant or the attorney or agent to make the substance of an interview of record in the application file, unless the examiner indicates he or she will do so. It is the examiner's responsibility to see that such a record is made and to correct material inaccuracies which bear directly on the question of patentability.

Examiners must complete an Interview Summary Form for each interview held where a matter of substance has been discussed during the interview by checking the appropriate boxes and filling in the blanks. Discussions regarding only procedural matters, directed solely to restriction requirements for which interview recordation is otherwise provided for in Section 812.01 of the Manual of Patent Examining Procedure, or pointing out typographical errors or unreadable script in Office actions or the like, are excluded from the interview recordation procedures below. Where the substance of an interview is completely recorded in an Examiners Amendment, no separate Interview Summary Record is required.

The Interview Summary Form shall be given an appropriate Paper No., placed in the right hand portion of the file, and listed on the "Contents" section of the file wrapper. In a personal interview, a duplicate of the Form is given to the applicant (or attorney or agent) at the conclusion of the interview. In the case of a telephone or video-conference interview, the copy is mailed to the applicant's correspondence address either with or prior to the next official communication. If additional correspondence from the examiner is not likely before an allowance or if other circumstances dictate, the Form should be mailed promptly after the interview rather than with the next official communication.

The Form provides for recordation of the following information:
- Application Number (Series Code and Serial Number)
- Name of applicant
- Name of examiner
- Date of interview
- Type of interview (telephonic, video-conference, or personal)
- Name of participant(s) (applicant, attorney or agent, examiner, other PTO personnel, etc.)
- An indication whether or not an exhibit was shown or a demonstration conducted
- An identification of the specific prior art discussed
- An indication whether an agreement was reached and if so, a description of the general nature of the agreement (may be by attachment of a copy of amendments or claims agreed as being allowable). Note: Agreement as to allowability is tentative and does not restrict further action by the examiner to the contrary.
- The signature of the examiner who conducted the interview (if Form is not an attachment to a signed Office action)

It is desirable that the examiner orally remind the applicant of his or her obligation to record the substance of the interview of each case. It should be noted, however, that the Interview Summary Form will not normally be considered a complete and proper recordation of the interview unless it includes, or is supplemented by the applicant or the examiner to include, all of the applicable items required below concerning the substance of the interview.

A complete and proper recordation of the substance of any interview should include at least the following applicable items:
1) A brief description of the nature of any exhibit shown or any demonstration conducted,
2) an identification of the claims discussed,
3) an identification of the specific prior art discussed,
4) an identification of the principal proposed amendments of a substantive nature discussed, unless these are already described on the Interview Summary Form completed by the Examiner,
5) a brief identification of the general thrust of the principal arguments presented to the examiner,
   (The identification of arguments need not be lengthy or elaborate. A verbatim or highly detailed description of the arguments is not required. The identification of the arguments is sufficient if the general nature or thrust of the principal arguments made to the examiner can be understood in the context of the application file. Of course, the applicant may desire to emphasize and fully describe those arguments which he or she feels were or might be persuasive to the examiner.)
6) a general indication of any other pertinent matters discussed, and
7) if appropriate, the general results or outcome of the interview unless already described in the Interview Summary Form completed by the examiner.

Examiners are expected to carefully review the applicant's record of the substance of an interview. If the record is not complete and accurate, the examiner will give the applicant an extendable one month time period to correct the record.

Examiner to Check for Accuracy

If the claims are allowable for other reasons of record, the examiner should send a letter setting forth the examiner's version of the statement attributed to him or her. If the record is complete and accurate, the examiner should place the indication, "Interview Record OK" on the paper recording the substance of the interview along with the date and the examiner's initials.